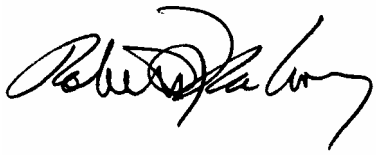
California Public Employees' Retirement System

Parallel Valuation and Certification of the Actuarial Valuation of the Judges' Retirement System II As Of June 30, 2004

Report Completed In Satisfaction of Task 3 of Contract 2003-3236

Approved:



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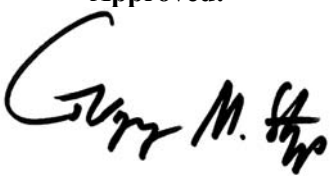

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May 11, 2006

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Overview

EFI Actuaries has completed a parallel valuation of the Judges' Retirement System II (JRS II, the System) as of June 30, 2004. As a result of our analysis, we are able to certify that the liabilities and costs computed in this Valuation are reasonable and were computed in accordance with generally accepted actuarial principles.

Our technical analysis of the Valuation Report revealed one minor issue regarding the amortization of the unfunded actuarial accrued liability. The total scheduled amortization payment for Fiscal Year 2005-2006 is listed as $278,329 in the Valuation Report. A 30-year amortization payment of the $8,471,056 UAL remaining as of June 30, 2005 would be $283,622. This is a very small difference, but nonetheless violates the Amortization Policy stated in Appendix A of the Report. The change in employer cost as a percentage of payroll reflecting this would be negligible (less than $1/100^{th}$ of one percent).

Another issue arose with regard to the amortization policy adopted in the Valuation. The current policy amortizes the unfunded actuarial accrued liability over 30 years as a level percentage of payroll. The payroll computation assumes growth in the JRS II active membership as a result of the retirement of JRS I judges. This practice is explicitly prohibited in preparing accounting disclosures under Statement 27 of the Governmental Accounting Standards Board (GASB).

At present, the impact of the amortization policy is not material. JRS II is nearly fully funded, and the amortization payment represents only about 1% of the total employer cost. However, it is almost certain that in some future valuation the amortization payment will become a significant portion of total cost; therefore, the amortization policy should be modified to comply with GASB Statement 27.

The supporting calculations and the above issues are discussed in more detail below.

Background

Judges Retirement System II provides pensions and ancillary benefits to judges who were elected or appointed on or after November 9, 1994. Judges elected or appointed prior to that date are covered under Judges Retirement System I (JRS I). JRS I and JRS II are separate retirement plans with separate memberships, separate asset pools, and no financial interrelationship.

Annual valuations of JRS II are completed using the Aggregate Entry Age Normal Funding Method. Each year total employer and member contributions are computed so that member pensions are funded as a level percentage of pay during their working lives. The pricing process is based on certain assumptions regarding the rate of investment return on System assets, annual pay increases, inflation, turnover and retirement rates, and longevity of members.

A judge who has reached 65 and is credited with 20 or more years of service under the System, or who has reached age 70 with five or more years, will be awarded either a lifetime pension or will be paid the balance of his or her monetary credits. The retiring judge makes the choice. The pension benefit is 3.75% of highest 12 months pay per year of service, up to 75%. The monetary credit balance is the accumulation of 8% of pay in employee contributions and 10% of pay designated as employer contributions from date of election or appointment. Death, disability, and termination benefits are also paid from the System.

Judges retiring under JRS II are entitled to a portion of the employer portion of post-retirement health

premiums from the System. However, this benefit was not included in the JRS II Valuation or in the EFI parallel valuation: It is assumed to be financed by the employers outside of the JRS II System.

Participants contribute 8% of pay. The System is financed by employer and employee contributions and the investment return on System assets.

The valuation date is June 30, 2004. Contributions are determined for the July 1, 2005 through June 30, 2006 fiscal year.

Actuarial assumptions used to compute System liabilities and normal costs include:

- An 7.25% annual rate of investment return, net of all expenses;
- Annual salary increases of 3.25%;
- Annual inflation of 3.0%;
- The overall payroll is projected to grow due to the interaction of the average annual salary increase of 3.25% and an increase in the projected number of actives. The number of actives is projected to increase each year by the projected decrease in the number of actives in the Judges' Retirement System (JRS I).
- Retirement between the ages of 65 and 70 after five years of service;
- Termination rates from 0.225% to 0.9% per year, depending on age and service; and
- Retired mortality rates approximately the same as the 1994 Group Annuity Mortality Tables for Males and Females published by the Society of Actuaries.

Methodology

Parallel valuation and certification involves two steps:

- Independent Parallel Valuation

  In order to verify the correctness of calculations in the JRS II Valuation, EFI conducted an independent, parallel valuation using its own actuarial model. This independent valuation determines whether actuarial assumptions and methods are applied properly and yield the reported results. When significant differences are observed, test lives and other special computations may be employed to determine their source.

- Review of Methods and Assumptions

  The actuarial assumptions and methods employed in the JRS II Valuation were reviewed by EFI in order to establish that they meet acceptable standards of actuarial practice.

Parallel Valuation

The JRS II Valuation was performed using the CalPERS Valuation System to compute liabilities and costs. EFI validated the CalPERS actuarial calculations by creating an *independent* actuarial model to

develop the valuation results. The only data common to the two models was the participant data; the EFI model was developed separately, without reference to the system used for the staff Valuation.

Table 1 below shows the principal results of the parallel valuations. The employer cost as a percentage of covered payroll computed by EFI is very close to that computed by PERS staff.

Table 1: Parallel Valuation Results

	JRS II Valuation	EFI Parallel Valuation	Difference
1. Present Value of Benefits for Active Members at Entry Age	$ 293,447,634	$ 297,327,206	1.32%
2. Present Value of Pay at Entry Age	1,062,029,373	1,086,420,065	2.30%
3. Normal Cost % Pay (1) ÷ (2)	27.631%	27.368%	(0.95)%
4. Present Value of Benefits for Active Members at Attained Age	$ 415,211,137	$ 420,958,292	1.38%
5. Inactive Liability at Attained Age	1,223,485	1,278,887	4.53%
6. Total Fully Projected Liability (4) + (5)	$ 416,434,622	$ 422,237,179	1.39%
7. Present Value of Future Pay	N/A	1,045,804,310	N/A
8. Present Value of Future Employee Contributions [8% of (7)]	80,700,930	83,664,345	3.67%
9. Present Value of Future Employer Normal Costs [((3) – 8%) × (7)]	198,030,062	202,551,379	2.28%
10. Actuarial Accrued Liability (6) – (8) – (9)	137,703,697	136,021,455	(1.22)%
11. Assets	129,152,543	129,152,543	0.00%
12. Unfunded Accrued Liability (10) – (11)	8,551,087	6,868,912	(19.67)%
13. Employer Normal Cost ((3) – 8%) × (16)	25,198,829	24,632,708	(2.25)%
14. Amortization of Unfunded Accrued Liability	278,329	227,828*	(18.14)%
15. Total Employer Cost (13) + (14)	$ 25,477,158	$ 24,860,536	(2.42)%
16. Projected Covered Payroll	128,362,432	127,182,506	(0.92)%
17. Employer Cost as % of Covered Payroll [(15) ÷ (16)]	19.848%	19.547%	(1.52)%

* using the same methodology as used by CalPERS

Review of Methods and Assumptions

Overall, the actuarial methods and assumptions adopted by CalPERS to compute JRS II liabilities and costs are reasonable and in accordance with generally accepted actuarial principles. However, the method used to amortize the unfunded actuarial accrued liability violates current accounting standards. While the issue is not presently material, it should be addressed. In addition, we have some comments concerning the method used to smooth Plan assets for funding determinations.

Accounting Standards

The JRS I System is closed to new entrants, and as members of that system retire, their replacements enter the JRS II System, causing it to grow. In order to compute a cost for the System that is a level percentage of (growing) payroll, the amortization factors take into account the increasing population and payroll for JRS II.

This is odds with GASB Statement 27, which states in paragraph 10(f)(3) that "the assumed payroll growth rate should not include an assumed increase in the number of active plan members; however, projected decreases in that number should be included if no new members are permitted to enter the plan".

The impact of a change in the amortization method for JRS II would be quite small. The Plan is nearly 100% funded, and the entire amortization payment currently represents just 1% of the total employer contribution. Nonetheless, as the JRS II matures, there will be years in which the unfunded accrued liability is material, and an amortization method compliant with GASB standards should be in place.

Asset Smoothing

The method used to smooth assets for computing costs and funding ratios in the JRS II valuation is being changed. Investment gains and losses are now being spread using a 15-year factor, replacing the three-year factor currently in use. In addition, the difference between actuarial assets and market value of assets is now allowed to vary by 20%, a widening of the 10% corridor currently in place. These changes have been put in place by the CalPERS Board to attempt to stabilize employer contribution rates.

The 15-year period being implemented for asset valuation has both merits and drawbacks. One important point is that the more years of smoothing taken into account, the more likely it is that the actuarial value of assets will remain at one end of the 80%/120% asset corridor for extended periods of time. Of course, once the actuarial value is constrained by reaching either 80% or 120% of market value, it will tend to move in parallel with market value, and there may be no asset smoothing at all.

Through simulation modeling, we have verified this observation, showing that over a 100 year period, using a 15-year smoothing period the actuarial value reaches the corridor value (the farthest possible value from the actual market value) about eight times more often as compared to using a three year smoothing period with the same corridor. Using the same model, a 15-year smoothing period with an 80%/120% corridor reaches the corridor value about 30% more often as when using a 3-year smoothing period with 90%/110% corridor.

We have discussed this issue and the above findings with the Actuarial Office. They are aware of the issue, and consider the potential asset fluctuations at the boundaries of the corridor to be a worthwhile tradeoff for the additional smoothing of employer costs resulting from the use of the 15-year factor. We

do not disagree with their point of view.